

The Remarks

Applicant thanks the examiner for the careful analysis of the claims and cited references. Claims 1 and 11 have been amended, and claims 2 and 13 have been cancelled to expedite allowance of the claims. Claim 22-34 are new. The specification has been amended to correct minor clerical errors. The amendment to paragraph [80] is supported, for example, by paragraphs [14] and [15] which refer to the oil/fat and alcohol as the reactants and the function of the alkyl ester, which one of skill will recognize to be that of a surfactant. The amendment to paragraph [96] is supported, for example, by paragraphs [14], [15], and [80]. The amendment to paragraphs [116] and [117] is supported, for example, by paragraph [120], originally filed FIG. 6, as well as Replacement Sheet FIG. 6, which was originally filed FIG. 5. No new matter has been added. The remarks provided below correspond to the numbered paragraphs as provided in the present action.

Paragraph 1. MPEP 609.03 states that “[t]he examiner will consider the documents cited in the international search report in a PCT national stage application when the form PCT/DO/EO/903 indicates that both the international search report and the copies of the documents are present in the national stage file. Regardless, Applicant is including an information disclosure statement addressing each of the examiner’s concerns and complying with Rules 97 and 98.

Paragraph 2. Replacement sheets of the drawings have been provided in compliance with 37 CFR 1.121 and are supported, for example, by paragraphs [38]-[50], [79]-[83], [87], [88], and [100]-[102], as well as in the Examples and original FIGs.

Paragraph 3-7. Claims 1-10 stand rejected under 35 USC 103(a) as being unpatentable over Sucher & Holzer Bauplan Handel (AT 406870B) (“Sucher”) in view of JAOCS, Vol. 61, No. 10 (“Peterson”).

Claim 1 recites a method of producing a bio-diesel oil comprising transesterifying oil/fat with alcohol in a reaction mixture comprising an alkyl ester, wherein the alkyl ester is created as a product of the reaction mixture and is refluxed back to the reaction

mixture to function as a subsidiary solvent that promotes homogenous mixing of the reaction mixture.

Sucher does not teach or suggest each and every limitation of Claim 1. In fact, Sucher is an example of the problems faced in the art that were addressed by the present application. Sucher teaches a method of producing fatty acid alkyl esters by transesterification of triglycerides with an alcohol in the presence of a basic catalyst and is characterized by a combination of the following steps: (1) the triglyceride is mixed with the alcohol and catalyst and converted to form two fluid phases, namely, a crude ester phase and a glycerin phase; (2) the two fluid phases are separated; (3) the crude ester phase is divided into two portions (A) and (B); (4) portion (A) is purified, producing substantially pure fatty acid alkyl ester; (5) portion (B) is mixed with more triglyceride for transesterification, more alcohol and more catalyst and converted to form two further fluid phases, namely, a crude ester phase and a glycerin phase; steps (2)-(5) are then repeated. Sucher does not teach or suggest a method wherein the alkyl ester is created as a product of the reaction mixture and is refluxed back to the reaction mixture to function as a subsidiary solvent that promotes homogenous mixing of the reaction mixture.

It should also be noted that the examiner points out that Sucher teaches the use of an alkyl ester as a "reactant." Claim 1 does not recite the use of an alkyl ester as a reactant but, rather, the use of an alkyl ester product that is refluxed back to the reaction mixture as a subsidiary solvent that promotes homogeneous mixing of the reaction mixture.

The deficiencies of Sucher are not cured by Peterson. Peterson was a study of heterogenous catalysts that occurred about the time Sucher. In fact, Peterson was cited by the examiner for the teaching of catalysts, and since catalysts are not a limitation recited in claim 1, they do not need to be addressed in an analysis of claim 1. Accordingly, and for at least these reasons, Applicant respectfully requests withdrawal of the rejection of claim 1, as well as claims 2-10 which depend from claim 1.

Paragraph 8 and 9. Claims 11-21 stand rejected under 35 USC 103(a) as being unpatentable over Sucher in view of GB 612,667 ("Lever Brothers") and further in view of Peterson.

A method of producing a bio-diesel oil, comprising: (a) pre-esterifying a free fatty acid, contained in oil/fat, with an alcohol in the presence of an acidic catalyst to create a reaction mixture comprising an alkyl ester; and (b) transesterifying the reaction mixture to create a product comprising the alkyl ester, wherein the alkyl ester is refluxed back to the reaction mixture to function as a subsidiary solvent that promotes homogenous mixing of the reaction mixture.

Sucher is described above, and for at least the reasons described above, does not teach or suggest each and every limitation of claim 11. Sucher does not teach, for example, an esterification process wherein the alkyl ester is refluxed back to the reaction mixture to function as a subsidiary solvent that promotes homogenous mixing of the reaction mixture.

Lever Brothers does not cure the deficiencies of Sucher. Lever Brothers is a very early example of the esterification of what were considered "low grade fatty materials" which were dark in color, to "high grade fatty materials" which were light in color and better for production of soaps, for example. Lever Brothers was directed to creating a process that would enable easier separation of components of a reaction, through the promotion of layering of immiscible components. Lever Brothers was not directed to creating a process that promotes homogeneous mixing of otherwise immiscible components. See Lever Brothers, for example, at page 2, lines 5-7 and lines 69-70 (stating one of the goals was to produce an esterification process that will not prevent the separation of layers). As such, one of skill would not look to either Sucher or Lever Brothers, either alone or in combination, to produce claim 11. And, as described above, Peterson does not cure the deficiencies of Sucher or Lever Brothers. Accordingly, and for at least these reasons, Applicant respectfully requests withdrawal of the rejection of claim 11, as well as claims 12-21 which depend from claim 11.

CONCLUSION

Claims 1-34 are in condition for allowance, and Applicant respectfully requests a Notice of Allowance. The undersigned can be reached at the telephone number set out below and welcomes a call from the examiner at any time to further expedite prosecution.

Applicant believes that any fees due have been submitted with this Response. However, the Commissioner is hereby authorized to credit any overpayment, or charge any additional needed fees, to TIPS Group PC Deposit Account No. 50-3539. ,

Respectfully submitted,

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